

J.P.
2/22/04

Listing of Claims:

BASF Docket No.: IN-5462

38. A retroreflective coating system comprising:

a substrate;

a color-providing film layer formed from a color-providing composition applied to said substrate; and

5 an at least partially-transparent clearcoat film layer formed from an at least partially-transparent clearcoat composition applied wet-on-wet to said color-providing composition as said color-providing composition is uncured;

wherein at least one of said color-providing composition and said clearcoat composition is cross-linkable, and at least one of said color-providing composition and
10 said clearcoat composition comprises retroreflective microspheres.

39. A retroreflective coating system as set forth in claim 38 wherein said color-providing film layer comprises a first color-providing film layer and a second color-providing film layer different from said first color-providing film layer.

40. A retroreflective coating system as set forth in claim 39 wherein said first
15 color-providing film layer is further defined as a pigmented basecoat film layer formed from a pigmented basecoat composition applied to said substrate.

41. A retroreflective coating system as set forth in claim 40 wherein said pigmented basecoat composition comprises from 5 to 40 parts by weight of pigment based on 100 parts by weight of said pigmented basecoat composition.

42. A retroreflective coating system as set forth in claim 40 wherein said pigmented basecoat composition comprises aluminum pigment.

43. A retroreflective coating system as set forth in claim 40 wherein said second color-providing film layer is further defined as a mid-coat film layer formed from
5 a mid-coat composition comprising said retroreflective microspheres and being applied wet-on-wet to said pigmented basecoat composition as said pigmented basecoat composition is uncured.

44. A retroreflective coating system as set forth in claim 43 wherein said mid-coat composition comprises from 1 to 40 parts by weight of said retroreflective
10 microspheres based on 100 parts by weight of said mid-coat composition.

45. A retroreflective coating system as set forth in claim 43 wherein said clearcoat composition is applied wet-on-wet-on-wet to said mid-coat composition and said pigmented basecoat composition to at least partially cover said retroreflective microspheres in said mid-coat composition.

46. A retroreflective coating system as set forth in claim 45 wherein said
15 pigmented basecoat composition, said mid-coat composition, and said clearcoat composition are simultaneously cured to form said pigmented basecoat film layer, said mid-coat film layer, and said clearcoat film layer, respectively.

47. A retroreflective coating system as set forth in claim 46 having a 60
20 degree gloss of at least 75, as defined by ASTM D523-89 (Re-Approved 1999).

48. A retroreflective coating system as set forth in claim 38 wherein said color-providing film layer is further defined as a pigmented basecoat film layer formed from a pigmented basecoat composition applied to said substrate.

49. A retroreflective coating system as set forth in claim 48 wherein said
5 clearcoat composition comprises said retroreflective microspheres and is applied wet-on-wet to said pigmented basecoat composition as said pigmented basecoat composition is uncured.

50. A retroreflective coating system as set forth in claim 49 wherein said pigmented basecoat composition and said clearcoat composition are simultaneously
10 cured to form said pigmented basecoat film layer and said clearcoat film layer, respectively.

51. A retroreflective coating system as set forth in claim 50 having a 60 degree gloss of less than 75, as defined by ASTM D523-89 (Re-Approved 1999).

52. A retroreflective coating system as set forth in claim 50 further
15 comprising a second at least partially-transparent clearcoat film layer formed from a second at least partially-transparent clearcoat composition applied to said clearcoat film layer and said pigmented basecoat film layer wherein said second clearcoat composition is free of retroreflective microspheres.

53. A retroreflective coating system as set forth in claim 52 wherein said
20 second clearcoat composition is cured to form said second clearcoat film layer.

54. A retroreflective coating system as set forth in claim 49 further comprising a second at least partially-transparent clearcoat film layer formed from a second at least partially-transparent clearcoat composition applied wet-on-wet-on-wet to said clearcoat composition and said pigmented basecoat composition wherein said
5 second clearcoat composition is free of retroreflective microspheres.

55. A retroreflective coating system as set forth in claim 54 wherein said pigmented basecoat composition, said clearcoat composition, and said second clearcoat composition are simultaneously cured to form said pigmented basecoat film layer, said clearcoat film layer, and said second clearcoat film layer, respectively.

10 56. A retroreflective coating system as set forth in claim 38 wherein said color-providing film layer is further defined as a pigmented basecoat film layer formed from a pigmented basecoat composition comprising said retroreflective microspheres and being applied to said substrate.

15 57. A retroreflective coating system as set forth in claim 56 wherein said clearcoat composition is applied wet-on-wet to said pigmented basecoat composition to at least partially cover said retroreflective microspheres in said pigmented basecoat composition.

58. A retroreflective coating system as set forth in claim 57 wherein said pigmented basecoat composition and said clearcoat composition are simultaneously

cured to form said pigmented basecoat film layer and said clearcoat film layer, respectively.

59. A retroreflective coating system as set forth in claim 38 wherein said retroreflective microspheres have an average diameter of from 10 to 100 microns.

5 60. A retroreflective coating system as set forth in claim 38 wherein said retroreflective microspheres have a refractive index of from 1.5 to 2.2.

61. A retroreflective coating system as set forth in claim 38 wherein said color-providing composition comprises from 1 to 40 parts by weight of said retroreflective microspheres based on 100 parts by weight of said color-providing composition.
10

62. A retroreflective coating system as set forth in claim 38 wherein said clearcoat composition comprises from 1 to 40 parts by weight of said retroreflective microspheres based on 100 parts by weight of said clearcoat composition.

63. A retroreflective coating system as set forth in claim 38 wherein said color-providing composition comprises from 5 to 40 parts by weight of pigment based on 100 parts by weight of said color-providing composition.
15

64. A retroreflective coating system as set forth in claim 38 wherein said color-providing composition is spray applied to said substrate, and said clearcoat composition is spray applied wet-on-wet to said color-providing composition.

65. A retroreflective coating system as set forth in claim 38 wherein said substrate is an automotive body panel.

66. A retroreflective coating system as set forth in claim 38 wherein said color-providing composition and said clearcoat composition are simultaneously cured to
5 form said color-providing film layer and said clearcoat film layer, respectively, wherein at least one of said color-providing composition and said clearcoat composition cross-links as a result of the cure.

67. A retroreflective coating system as set forth in claim 66 having a 60 degree gloss of at least 75, as defined by ASTM D523-89 (Re-Approved 1999).

10 68. A retroreflective coating system as set forth in claim 66 having a 60 degree gloss of less than 75, as defined by ASTM D523-89 (Re-Approved 1999).

69. A retroreflective coating system as set forth in claim 66 having a film build of from 10 to 100 microns.

15 70. A retroreflective coating system as set forth in claim 69 wherein a portion of said film build is removed after said color-providing composition and said clearcoat composition have been simultaneously cured to increase exposure of said retroreflective microspheres to an external light source.

71. A retroreflective coating system as set forth in claim 69 wherein a portion of said clearcoat film layer is sanded after said color-providing composition and said

